

ABSTRACT

The invention relates to an autonomous switching transformer, in which an input voltage can be applied to a storage inductor by means of a first semiconductor switch. The voltage drop of a sensor resistor that is connected in series to the first semiconductor switch is fed to a control electrode of a second semiconductor switch. The input voltage is connected to the control electrode of the first semiconductor switch via a resistor. This control electrode can be grounded via the second semiconductor switch. During a first conduction phase of a first time duration of the first semiconductor switch and an increase in current through the storage inductor, the second semiconductor switch becomes conductive and breaks the contact of the first semiconductor switch. The storage inductor then supplies energy to an output capacitor for a second time duration via a rectifier diode, until the capacitor of a series RC-element that connects the switching input of the second semiconductor switch to the input voltage is charged, the contact of the second semiconductor switch is broken and the first semiconductor switch becomes conductive again.